UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>02 June 2006</u>.
2a) ☐ This action is **FINAL**.　　2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-12, 36 and 37</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-12, 36 and 37</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a) ☐ All　b) ☐ Some * c) ☐ None of:

　　　1. ☐ Certified copies of the priority documents have been received.

　　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the amendment filed March 14, 2006 and the

election made on June 2, 2006.

Election/Restrictions

2.   An election was made with traverse to prosecute the invention of Group I, claims

1-12, 36, and 37. Claims 13-35 are withdrawn from further consideration pursuant to 37

CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable

generic or linking claim.

3.   Claims 1 and 36 have been amended.

4.   Claims 1-12, 36, and 37 have been examined and are pending with this action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claims 1-3, 5-8, 10, 12, 36, and 37 are rejected under 35 U.S.C. 102(b) as being

anticipated by Harris et al. (US 4,631,666 A).

INDEPENDENT:

As per *claim 1*, Harris teaches of a network controller for digitally directing

communications with a plurality of remote devices via a common bus, the network

controller comprising:

a transmitter for digitally transmitting messages via the common bus (see col.3,

lines 7-12: "a transmitter");

a receiver for receiving digital messages from the common bus (see col.3, lines

7-12: "a receiver");

a clock for providing clock signals to both said transmitter and said receiver (see

col.3, lines 66-68: "uses an internal clocking source within the modem to synchronize

the transmitter and receiver"),

wherein both said transmitter and receiver are capable of selectively operating in

either mode selected from the group consisting of a synchronous mode and an

asynchronous mode (see col.1, lines 41-47; col.9, lines 5-8; and col.11, lines 6-7: "the

transceiver can support both asynchronous and synchronous modes"),

wherein said transmitter transmits both messages and the clock signals via the

common bus in the synchronous mode (see col.4, lines 3-15 and col.6, lines 30-36: "(i)

asynchronous (not clocked) or (ii) synchronous (clocked)" & lines 58-61 "transmits a

clock signal along with the data bits"), and

wherein said transmitter transmits messages at a predetermined bit rate without any accompanying clock signals via the common bus in the asynchronous mode (see col.6, lines 30-36: "(i) asynchronous (not clocked) or (ii) synchronous (clocked)"),

wherein each of at least some of the remote devices are capable of operating in only one of the synchronous mode or the asynchronous mode, and wherein the selective operation of both said transmitter and receiver include, for each of at least some of the plurality of remote devices, selectively operating in either of the synchronous mode or the asynchronous mode based upon the mode in which the respective remote device is capable of operating (implicit: see col.1, lines 39-47: "units manage the transfer and storage of data to/from remote data terminals such that... Units can be controlled to handle not only a variety of transfer protocols but also both synchronous and asynchronous communications" and col.9, lines 1-8).

As per *claim 10*, Harris teaches of a network controller for digitally directing communications with a plurality of remote devices via a common bus, the network controller comprising:

a transmitter (see col.3, lines 7-12: "*a transmitter*") for transmitting digital messages to the plurality of remote devices via the common bus at a predetermined bit rate (see col.4, lines 3-15 & 21-24: "precisely synchronized clock and data"; col.6, lines 30-36: "(i) asynchronous (not clocked) or (ii) synchronous (clocked)"; and col.17, lines 37-44), said transmitter being capable of altering the predetermined bit rate at which

messages are transmitted while communicating with the plurality of remote devices

(implicit: see col.3, lines 46-53 & 63-68); and

a receiver (see col.3, lines 7-12: "*a receiver*") for receiving digital messages from

the plurality of remote devices via the common bus at the same predetermined bit rate

at which messages were previously transmitted to the plurality of remote devices such

that said receiver is capable of receiving messages as said transmitter alters the

predetermined bit rate without relying upon any clock signals (see col.26, lines 35-42:

"rate at which the bits are expected is determined by... (3) by the DCE in the

synchronous mode").

As per *claim 36*, Harris teaches wherein network controller for digitally directing

communications with a plurality of remote devices via a common bus, the network

controller comprising:

a transmitter for digitally transmitting messages via the common bus (see col.3,

lines 7-12: "*a transmitter*"); and

a receiver for receiving digital messages from the common bus (see col.3, lines

7-12: "*a receiver*"),

wherein the transmitter is capable of transmitting an indefinitely repeating

sequence of predetermined messages via the common bus (see col.6, lines 30-33:

"data are transmitted one after another in serial fashion" and col.21, lines 25-31: "has

the ability to repeat certain OPs"),

the transmitter being capable of repeating the sequence without interruption to the transmitter transmitting other messages via the common bus (see col.21, lines 25-31: "has the ability to repeat certain OPs"), wherein the receiver is capable of receiving an indefinitely repeating sequence of messages from the common bus (implicit: see col.14, lines 50-57: "synchronization is maintained by operating... at the same frequency and... in phase"), and wherein the network controller is capable of altering the predetermined messages as the transmitter transmits messages and the receiver receives messages (implicit: see col.3, lines 46-53 & 63-68).

DEPENDENT:

As per *claim 2*, which depends on claim 1, Harris teaches of further comprising a clock transmitter for digitally transmitting the clock signals via the common bus, wherein said clock transmitter operates at a constant level during the asynchronous mode (see col.3, lines 46-50: "2,000 bits a second on preconditioned leased lines").

As per *claim 3*, which depends on claim 1, Harris further teaches wherein said clock receives a baud select command that defines the predetermined bit rate at which said transmitter will transmit messages in the asynchronous mode (see col.12, lines 48-52).

As per *claim 5*, which depends on claim 1, Harris further teaches wherein said receiver asynchronously receives messages from the common bus (see col.26, lines 35-42).

As per *claim 6*, which depends on claim 1, Harris further teaches wherein the common bus is selected from a group consisting of differential twisted copper wire, coaxial copper wire, fiber-optic cable and single-ended copper wire (see col.3, lines 15-22).

As per *claim 7*, which depends on claim 1, Harris further teaches wherein the network controller is capable of selectively operating in either communication mode selected from the group consisting of: a half-duplex communication mode and a full-duplex communication mode (see col.3, lines 15-22).

As per *claim 8*, which depends on claim 1, Harris further teaches wherein said network controller is capable of acting as a remote device while another, master network controller directs communications with the plurality of remote devices, including the network controller, via the common bus (see col.9, lines 1-5).

As per *claim 12*, which depends on claim 10, Harris further teaches wherein said transmitter receives a baud select command that defines the predetermined bit rate at which the messages will be transmitted (see col.12, lines 48-52).

As per *claim 37*, Harris teaches of further comprising a clock for providing clock signals to both said transmitter and said receiver, wherein both said transmitter and receiver are capable of selectively operating in either mode selected from the group consisting of a synchronous mode and an asynchronous mode, wherein said transmitter transmits both the messages and the clock signals via the common bus in the synchronous mode, and wherein said transmitter transmits the messages at a

predetermined bit rate without any accompanying clock signals via the common bus in

the asynchronous mode (see claim 1 rejection above).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et

al. (US 4,631,666 A) in view of Buchanan et al. (US 3,845,472).

As per **claim 4**, which depends on claim 1, Harris does not explicitly teach

wherein said network controller is capable of commanding a remote device to at least

temporarily direct the communication with the other remote devices via the common

bus.

Buchanan teaches wherein said network controller is capable of commanding a

remote device to at least temporarily direct the communication with the other remote

devices via the common bus (see col.3, lines 7-12).

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to employ the teachings of Buchanan with the system of Harris by

implementing commanding a remote device to at least temporarily direct the

communication with the other remote devices via the common bus within the digitally

communicating network controller because such step eliminates "synchronization of

clock and data signal within the remote stations" to continuously transfer signal bits and

therefore, saves time and processing resources.

7.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et

al. (US 4,631,666 A) in view of Gulick (US 6,195,749 A).

        As per *claim 9*, which depends on claim 8, although Harris teaches of including

random access memory (RAM) (see col.29, lines 13-17), he does not explicitly teach

wherein said network controller includes stack memory, wherein said network controller

is capable of interacting with the master network controller such that, when said network

controller is acting as a remote device, the master network controller is capable of

selectively accessing either type of memory selected from the group consisting of the

stack memory and the RAM.

        Gulick teaches of a network controller that includes stack memory, wherein said

network controller is capable of interacting with the master network controller such that,

when said network controller is acting as a remote device, the master network controller

is capable of selectively accessing either type of memory selected from the group

consisting of the stack memory and the RAM (see col.1, line 61 to col.2, line 11).

        It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to employ the teachings of Gulick within the system of Harris by

implementing controllers interacting with either type of memory selected from the group

consisting of the stack memory and the RAM within the digitally directing network controller apparatus because Gulick teaches that at power up or system reset, the lack of memory makes writing BIOS codes more difficult when at the same time the BIOS codes are demanded to perform more functions, therefore such an implementation allows for increase in registers to be used as "a stack or scratchpad memory" (see col.1, lines 32-54).

8.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et al. (US 4,631,666 A) in view of Marino (US 3,705,267).

As per *claim 11*, which depends on claim 10, Harris further teaches wherein said transmitter transmits a message to the at least one remote device at an altered bit rate following alteration of the predetermined bit rate (implicit: see claim 10 and 36 rejections above), however, Harris does not explicitly teach of an example message.

Marino teaches of an example message (see col.1, lines 16-25).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Marino within the system of Harris by implementing an example within the digitally directing network controller apparatus because such an implementation allows receiving device to know when a change has occurred or is about to occur, thereby further synchronizing the sent and the received data.

Response to Arguments

9.   Applicant's arguments with respect to claims 1-12, 36, and 37 have been

considered but are moot in view of the new ground(s) of rejection. The newly cite

reference *Harris* et al. (US 4,631,666 A) clearly and explicitly teach all the limitations of

claims 1-3, 5-8, 10, 12, 36, and 37. Buchanan et al. (US 3,845,472), Gulick (US

6,195,749 A), and Marino (US 3,705,267) teach the missing limitations of claims 4, 9,

and 11, respectively.

Conclusion

10.   For the reasons above claims 1-12, 36, and 37 have been rejected and remain

pending.

11.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Michael Y. Won whose telephone number is 571-272-

3993. The examiner can normally be reached on M-Th: 7AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael Won

July 17, 2006